

How trainee hospital doctors lead work-based projects

Snelling, Iain; Benson, Lawrence; Chambers, Naomi

DOI:

[10.1108/LHS-12-2018-0064](https://doi.org/10.1108/LHS-12-2018-0064)

License:

Creative Commons: Attribution-NonCommercial (CC BY-NC)

Document Version

Peer reviewed version

Citation for published version (Harvard):

Snelling, I, Benson, L & Chambers, N 2019, 'How trainee hospital doctors lead work-based projects', *Leadership in Health Services*, vol. 33, no. 1, pp. 85-100. <https://doi.org/10.1108/LHS-12-2018-0064>

[Link to publication on Research at Birmingham portal](#)

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

How trainee hospital doctors lead work-based projects.

Abstract

Purpose

To explore how trainee hospital doctors led work-based projects undertaken on an accredited development programme in England.

Design/methodology/approach

This is a case study of a leadership programme for hospital based specialty trainees. The programme included participants leading work-based projects which were submitted for academic accreditation. Accounts of 35 work-based projects were thematically analysed to explore how participants led their projects.

Findings

Leadership was often informal, and based on a series of individual face to face conversations. The establishment of project teams and the use of existing communication processes were often avoided. The reasons for this approach included lack of opportunities to arrange meetings, fear of conflict in meetings, and the personal preferences of the participants. We relate these findings to theory and evidence about conversations and informal leadership, relating to the roles of power and hierarchy and the application of complexity theory.

Research limitations/implications

The data are limited and drawn from the best accounts written for a specific educational context. There is therefore limited transferability to the leadership work of hospital based specialty trainees in general. Future research into medical leadership might explore the micro practices of leadership and change, particularly in informal settings.

Practical implications

Leadership development programmes for trainee hospital doctors might concentrate on developing skills of conversation, particularly where there are or may be perceived power imbalances. Exploring conversations within the theory of complex responsive processes should be considered for inclusion in programmes.

Originality/value

Our study adds some detail to the general understanding of the effectiveness of learning leadership in practice.

Key words: Doctors, Hospitals, Leadership, Learning, NHS.

Paper type: Case study.

Introduction.

Engaging doctors in healthcare leadership and more specifically in interventions to improve quality and patient safety is a prominent issue in healthcare systems across the world, and is associated with a wide and developing literature (Sarto and Veronesi 2016, Clay-Williams *et al.*, 2017, Berghout *et al.*, 2017). It has been argued that this engagement has missed opportunities to include junior doctors as leaders of service improvement (Brown *et al.*, 2012). Junior doctors have a number of useful attributes for the process of improvement, including a beginner's mind, experience of working in many organisations, and a clinical role deeply embedded in day to day operations, with a position that may be considered as 'non-threatening' (Ibrahim *et al.*, 2013). The Health Foundation (2011:23) reviewed the evidence of engaging junior doctors in quality improvement. They concluded that "giving junior doctors an opportunity to make practical changes and to see the benefits of their actions may make a difference to not only their ongoing professional development, but also the degree to which they prioritise quality improvements in future."

A survey undertaken in the U.K. by Gilbert *et al.*, (2012) found that 91.2% of junior doctors had had ideas for service improvement, but only 10.7% had had an idea implemented. 43.8% were unsure about how to get an idea implemented. These figures apply to all junior doctors, from those undertaking their first clinical role to senior trainees on the cusp of a consultant appointment. A similar survey restricted to registrars in a UK Region (undertaking specialty training) reported 27.9% had had an idea for improvement implemented. 80% of respondents felt there was either little or a moderate prospect of developing their leadership skills in their current training programme, and the majority felt that the greatest contribution that they could make was through medical audit (Mendis and Paton 2014).

There have been in the U.K. a number of high profile development schemes and fellowships for junior doctors, for example the Darzi Fellowships, a year long development programme, established in 2008 by Lord Darzi, an eminent surgeon and health minister, that specialist trainees take in a break from their clinical training. This has more recently become multi-professional (Conn *et al.*, 2016). Bagnall (2012) interviewed participants on the Darzi and other programmes in England, and confirmed the broadly positive evaluations that the schemes have received. Drivers and barriers to leadership and quality improvement by junior doctors were identified, the latter including a lack of time to develop leadership skills and issues of insufficient support and culture. These schemes are in the main undertaken outside medical training, with limited clinical work. In 2016 The Royal College of Physicians established a Chief Registrars' scheme, including a development programme, which kept trainees in clinical practice with 40% of their time devoted to the Chief Registrar role, typically for a year (Phillips 2018, Exworthy and Snelling 2017).

From America there is a wide literature on interventions to develop patient safety and quality improvement knowledge and skills in medical students and trainee medical staff. There has been a number of systematic reviews of this literature (Wong *et al.*, 2010, Jones *et al.*, 2015, Kirkman *et al.*, 2015). Frich *et al.*, (2014) reviewed leadership development programmes for physicians. They excluded programmes addressing only quality improvement which reflects a division in the literature between leadership and quality improvement/patient safety. Similarly, Sadowski *et al.*, (2018) reviewed leadership training in graduate medical education, and Lucas *et al.*, (2018) surveyed Academic Health Centres about their approaches to faculty leadership training. In these reviews addressing patient safety and quality, or leadership, there are many studies reported of programmes using work-based projects as part of the educational approach. However, there is rarely more than a brief description of the projects, and little exploration of learners' experiences or how the projects were led. The theory used in the literature on leadership programmes is minimal, with leadership, services improvement, and personal development considered in very broad terms. We aim to

contribute by providing some detail on work-based projects, and suggestions of specific areas of theory for future research and leadership development practice.

We provide details of a leadership development programme offered to hospital based specialist trainees in a region of England between 2011 and 2016, and explore the experiences of these hospital doctors through a sample of their written reflections produced after a work-based project. We concentrate on their experiences of leading change, and the leadership processes they employed. The first two authors of this paper were jointly directors for the programme. The third author read the project accounts to contribute to the analysis from outside the programme, and also contributed to the work of interpreting the results in the light of existing theory and evidence.

In the paper we first give some details of the programme, including of the project reports which form our data. Second, we present a broad analysis of the leadership processes contained within the project accounts without a specific theoretical lens. Finally, we relate the results to a body of theory and evidence that highlights the importance of relational leadership in research and practice, and suggest that leadership programmes might consider conversation skills, and understanding the role of conversation in change, as subjects to be included.

The Medical Leadership in Practice (MLiP) programme.

The MLiP programme was commissioned by a Deanery (subsequently part of Health Education England) from two universities between 2011 and 2016. The programme was available for hospital-based specialist trainees in any year of training, although in practice participants on the programme tended to be towards the end of their training. In the five years the programme ran, over 650 trainees attended.

Although there were some minor changes from programme to programme the basic design remained constant. It was developed initially with reference to the Medical Leadership Competency Framework (Clarke and Armit 2010) which was developed by the Academy of Medical Royal Colleges and the NHS Institute for Innovation and Improvement. It is based on the idea of competences which is a terminology consistent with U.K. professional regulation through the General Medical Council. The MLCF is based on the concept of shared leadership “where leadership is not restricted to people who hold designated leadership roles, and where there is a shared sense of responsibility for the success of the organisation and its services” (Academy of Medical Royal Colleges and the NHS Institute for Innovation and Improvement, 2010: 6). The framework gives detailed competence statements in five domains, and examples of leadership and development opportunities at undergraduate, postgraduate, and continuing professional development levels. The five domains are Demonstrating Personal Qualities, Working with Others, Managing Services, Improving Services and Setting Direction.

All of these domains were addressed in the design of the programme which consisted of two study days 4 weeks apart, with an additional half-day action learning set after each of the days. Recommended reading was given. Participants were asked before the start of the programme to identify a change project that they could work on over the course of the programme, and these projects were considered in the action learning process. The programme was accredited with 15 credits at master’s level.

The study days included, on day 1, an introduction to leadership theory and research, and working in teams, which included an experiential exercise. On day 2, there were sessions on tools and techniques of service improvement and on change management. From 2013 the NHS Leadership Academy’s Healthcare Leadership Model (NHS Leadership Academy 2013) was used as a framework

for participants to undertake self assessment, using the online tool available free of charge. The session on teamwork included the 'basics' of Tuckman (1965) and Belbin (2010). Tools and techniques of service improvement drew on resources widely available in the NHS covering areas such as systems thinking, lean, flow charting, and PDSA cycles (Boaden et al, 2008). The session on change management used Kotter's (1996) 8 steps which was introduced through the use of a worked example and exercise taken from a leadership text book specifically directed at doctors in training (Gillam 2011). Change processes that emphasise behavioural change (McMillan et al 2013), and skills of persuasion (Cialdini 1984) were also discussed.

The action learning sets were facilitated by course tutors. Each participant presented their service improvement project to their set of between 4 and 6 peers, who then asked questions to help the presenter and the set explore and understand the issues in more depth. Each participant had around half an hour 'air time' for their project. A basic introduction to the principles of action learning was provided in writing (Revans 2011, McGill and Beaty, 2001).

Guidance was available to participants on the projects that they undertook. It was emphasised that the projects didn't have to be major changes, and that significant leadership learning could be achieved through small changes. The approval of the participant's education supervisor was required. Projects didn't need to be completed, but they should have progressed far enough to have provided an opportunity for learning about leadership. Attempts to speed up the progress of the project in order to meet assessment deadlines were explicitly discouraged, so that the workplace context determined the pace of the project.

The projects provided the subject for the academic assessment in two parts. Firstly a written presentation about the project, with supporting notes. Second a 1,500 word reflective account of the participant's leadership in the project including the personal development achieved.

The healthcare system context for the MLiP programme was one dominated by considerable financial pressure in the NHS in England which has continued from 2009. Alongside these financial pressures, there was also a renewed emphasis on quality and patient safety, particularly following events at Stafford Hospital between 2005 and 2009 where high mortality and appalling standards of care were blamed on poor leadership, financial pressures and failures in commissioning and regulatory structures (Francis, 2010 2013).

Methods.

We used the accounts of change that were submitted for assessment as data in this case study. We contacted all participants who had achieved a distinction mark (70% or above) in their reflective accounts over the final two years of the programme. We selected the best of the reflective accounts because they offered a richer account of the leadership experiences of the participants. A total of 56 participants of the programme were contacted and asked for their consent to include their project reports in this research. 35 responded with consent. Ethical approval was granted by the University of Birmingham, and Health Education England. The titles of projects are given in table 1. The projects came from a range of specialties, as shown in Table 2.

Table 1: Project titles.

- Reducing haemorrhage risk on the well women unit.
- Lumber punctures - improving success rates.
- Improving diagnosis of delirium: introducing the 4AT tool.
- Implementing a stand alone registrar on call rota.
- Setting up a reflective practice group.
- A minor operations service: a service improvement project.
- Development of the surgical ambulatory care centre.
- Development of a manual vacuum aspiration service.
- A service improvement project: improved access to clinical trials.
- Improving the pre-operative assessment clinic for breast surgery.
- Developing IV iron service to reduce preoperative anaemia.
- Prevent biologic waste; introduce cash injection to the NHS.
- Introducing access to electronic patient records from home.
- Improving the rehabilitation medicine teaching programme.
- Pathway to manage suspected pulmonary embolism in emergency department.
- Developing an efficient way of delivering post operative skin cancer histology results.
- Implementing a reminder system for outstanding cases.
- Developing a proforma for the MDT meeting.
- Initiation and monitoring of disease modifying anti-rheumatic drug therapy.
- Bridging patient safety and quality improvement in emergency gynaecology.
- Developing a non invasive ventilation proforma.
- Introduction of the emergency laparotomy boarding card.
- Implementing patient triage in AMU.
- Improving the quality of clinical coding of patients with septicaemia.
- Improving patient self management of angina.
- Hospital chief resident role: Impact on trainee satisfaction.
- Reducing the time delay in obtaining scans in paediatric oncology.
- Safe chemotherapy prescribing in paediatric haematology.
- Developing and delivering an integrated pain pathway.
- Writing ward blood results management algorithms.
- Implementing a mortality review process to address barriers to patients being able to die in their preferred place of care.
- Evaluation of paediatric services.
- Implementing a new method of identifying patients at risk of osteoporosis presenting at orthopaedic clinics.
- Managing urinary retention in patients during radiotherapy.
- Improving clinic templates in a dermatology department.

Table 2: Specialties of included projects.

Surgical Specialties	7
Anaesthetics	2
Obstetrics and Gynaecology	3
Medical Specialties	13
Psychiatry	4
Paediatrics	3
Pathology	3

In the 35 projects, 22 appeared to be complete or awaiting the final stage of implementation with no sense of possibility of failure. In 8 of the remaining 13 projects, change hadn't been achieved although some significant progress had been made. In 5 projects no change was possible in the timescale of the project, although the reflective account and explanation of the project were able to demonstrate achievement of the learning outcomes of the module.

Coding of the accounts of change was inductive following the thematic analysis process outlined by Braun and Clarke (2006). We used NVIVO to code the reflective accounts and the presentations to identify themes in the trainees' accounts. All three authors independently coded 7 of the project accounts, and met to agree a final coding frame for the data which the first author applied to the full data set. The three authors then agreed the key themes relating to the experiences of the participants and how they led their projects, and the first author developed the thematic analysis. After the thematic analysis was completed, we went back to the data and the literature to explore the key theme in more depth.

Results.

Before discussing leadership, we briefly introduce three themes from the leadership experiences of the participants, namely conflict, team working and engaging senior support. These themes are important in understanding their leadership, and provide context for the most significant finding relating to leadership. For quotes from the project accounts we have noted a randomly allocated participant number (P1, P2, etc.) to show the spread of quotes from the sample of projects.

Conflict.

A number of participants reflected on their anxiety about the possibility of conflict, and that this anxiety was influential in deciding how to approach the project. For example in one project the participant said that:

“As a leader, I strongly believe in having less conflict in a work place to create a harmonious work place environment. However I realised that fear of conflict may not create an improvement in quality of work or patient safety. In some ways, fear of conflict is but a dimension to “fear of change”. I had to take a stand to persist and influence people in authority to share my vision regardless of fear of conflict and change.” (P17).

The project referred to in this example was seeking to change the way that surgical emergencies were managed in dedicated operating slots. It is one of the projects where despite considerable effort and negotiation, limited progress had been made, although plans had been developed. Another project, addressing the management of patients suffering from urinary retention, required

some assistance from authority (a senior nurse) to achieve the change, in the face of resistance from a nursing colleague. In this case, the participant reflected that, "I usually work with people who have self-selected to support a project. I did not like the idea of using authority to make someone do something and had hoped to be able to persuade her." (P29).

Across the data, experiences of overt conflict were rare. A more common obstacle was apathy: "I also disliked the one sided battle to get junior colleagues involved." (P25). However, others had more positive experiences: "I actually found that approaching the stakeholders in order to gain their input/interest in this service change was relatively straightforward." (P4). "The ward manager was very enthusiastic and encouraged me to 'just get on with it'." (P23). "Everyone I approached was confident this was a good idea." (P1).

Team working.

In the accounts, team working was a frequent theme. However, there was little use of any areas of theory of team working to reflect on the process. Accounts often suggest that the idea of 'the team' was the collection of people consulted, or who supported the project in some way. In a number of projects, participants reflected on reluctance to involve others, initially at least. For example: "I think I could have been better at 'engaging the team'. My independent nature means that I try to do too much myself whereas a team approach might give better results." (P8). In this project to improve safety, the participant,

"was impressed at how quickly changes were being implemented without much effort on my part but [I] felt uncomfortable about this too. For example, within a week of me suggesting some proposals to the .. nurse she had [undertaken several changes]. You would think I would be happy about this but I had planned to do these things myself. As someone who is very independent and a 'control-freak' I've realised that I feel slightly uncomfortable delegating tasks as I enjoy being the one who takes credit for the changes."

This honest and revealing reflection shows tension between working in a team and the need to be credited with change. Similar sentiments were expressed in other accounts. Difficulties in delegating were experienced for other reasons, for example difficulty in accepting "a positional role in delegating the tasks." (P34). In one project, however, a participant reflected that:

"I can be a perfectionist and as a result I sometimes have difficulty delegating tasks to others. In this project I found the task of delegating much easier due to the fact that implementing service change is something in which I had little background knowledge. By creating a strong team of knowledgeable people I knew that the tasks would be carried out to the best ability". (P4).

Engaging senior support.

Engaging senior support was also a theme, and in some projects there was a keen sense of hierarchy. This engagement took two forms. First, there were often attempts at the start of the projects to gain appropriate permission for the change. So for example, I "began by communicating with the stakeholders who had the authority to facilitate this change: the ward manager and the consultant." (P12). The second form of seeking senior support was much less common, but a feature of some projects. This occurred when a block was encountered which could not be overcome, and there was an appeal for senior support. For example, "involvement of the Medical Director to help drive through certain decisions was found to be useful and a necessary part of the 'planned change' approach." (P6). In several projects participants led project teams with included senior colleagues,

and were acutely aware of the hierarchical relationships: "I did find that my role as leader within the team was at odds with the natural hierarchy found in my clinical practice and initially the most difficult part of the process for me was leading a team that included my boss." (P4)

Leading projects.

In exploring leadership of the projects, the key theme, which was represented very strongly across the data, was reliance on informal communication, particularly in one to one conversations.

There was an acknowledgement that in projects which required consultants to change their practice (clinically or administratively), each one needed to be individually engaged. For example in a project which asked consultants to complete proforma for MDT discussions in clinic, rather than taking turns to do it retrospectively from the case notes, the participant:

"...decided upon a one to one discussion initially rather than a group meeting; this method demonstrated some informal leadership qualities. I adopted this method because I observed that every individual consultant behaved differently when it came to taking on new ideas and therefore would require different approaches." (P14).

This process of engaging with medical staff, especially consultant staff, was seen across the projects. The word 'informal' was often used. For example: "I ... informally consulted with senior members of each group to find out what information they thought was necessary" (P22), and "I adopted an informal, friendly manner and consulted all members of staff involved in the pathway." (P31). Individual negotiation was also used with other staff, in the case below nursing staff relating to the use of a revised triage tool in an admission unit. Here a disappointing initial outcome on use was blamed on difficulties in talking individually to every nurse:

"I have needed to introduce myself to many new people (something which I personally find difficult) and have spoken individually to as many nurses as possible to encourage use of the tool. Uptake has been variable (30-70%)...probably because we could not physically speak to all members of staff. (P23).

Several participants reflected on the significance of unplanned meetings. "One of the key moments was engaging a haematologist in a conversation regarding treatment, in a different and non-related clinical situation." (P16) Another said that. "I also learnt that formal meetings are not always necessary and sometimes informal opportune meetings were just as important to move the project forward". (P18). In some cases opportunities for informal meetings were actively sought out.

"Getting hold of the ward clerks and discussing this issue was a little more challenging, they were constantly on the go and after trying to talk to one of our 2 members over lunch I realised they didn't want to be interrupted during their break! I persevered and finally managed a productive conversation at the 'water cooler'." (P32).

Another reason for engaging colleagues individually was that other forms of communication were difficult. E-mails weren't answered, and it was difficult to arrange meetings. This also slowed progress. For example in a project to provide ECG assessment within a clinic,

"It was difficult to arrange meetings at a time when people were either not on leave or busy with clinical commitments and this did slow down the project. The way in which I managed this was to make myself available to meet at different times with different team members". (P2).

Discussion.

The importance in project accounts of informal, individual, face to face interactions suggests that this might be an area of theory and practice with potential for engaging junior doctors in leadership and change. There is a clear picture in the data of participants taking an individual approach to their projects, often eschewing the formal formation of a team or 'guiding coalition', in order to pursue change mainly through individual conversations. This finding led us to consider the details of these conversations, especially since a number of participants also expressed some nervousness about taking on a leadership role and an anxiety about possible conflict. Unfortunately our data do not contain details of the conversations, other than at a very general level. However, theory and evidence from healthcare and other contexts shine some light on these conversations, and suggest avenues for future research and leadership education.

Table 3 presents brief excerpts of reflective accounts from 11 projects, with some details of context and conversation partners. This breadth of data supports highlights different settings, purposes and outcomes for individual conversations. The quotes suggest the reasons for informal conversations included time constraints, personal preference, and fear of conflict in formal settings.

Relational leadership draws a distinction between an entity perspective and a relational perspective, the former focussing on individuals (leaders and followers), and the latter focussing on the processes of the relationship where understandings are socially constructed (Uhl-Bien 2006). As noted above, the evidence regarding leadership development of doctors in training draws on broad theoretical perspectives of leadership and service improvement. This evidence is overwhelmingly within the entity perspective. The relational perspective focusses on the practice of leadership, including the micro-dynamics of conversations. Examining leadership micropractice can uncover how imbalances in power and authority exist even where they are assumed to have been reduced or eliminated. Studies of interprofessional teams have highlighted that the medical profession remains dominant, even when there have been acknowledged attempts to 'democratise' teams (Nugus *et al.*, 2012, Lingard *et al.*, 2012). Gordon *et al.*, (2017) used video capture and reflections of the actors involved when viewing video clips, to explore the enactment of leadership. Although a complex pattern of interaction emerged, which was able to draw on body-language and the use of material artefacts as well as the use of language, leadership interactions were "generally led by trained medical staff in particular during formal contexts such as ward rounds and multidisciplinary meetings" (Gordon *et al.*, 2017:1110).

These studies examine contexts which are explicitly clinical, with a clear focus on patients. This is leadership as 'an intrinsic component of a physician's daily work' as Berghout *et al.*, put it (2017:2), a role they characterise as informal leadership. The context of the participants in our programme was different in two ways. First, as discussed above, there was a limited team context, even though others were involved. Second projects were not concerned with individual patients, but improvements in patient care generally. In this different context, direct observations of interventions are not available in the literature, presumably in part because of difficulties in gathering data in informal dispersed interactions. Informal communication has been highlighted as important in collaborative care, where some chance communication events were actually engineered, in some cases to circumvent hierarchies that impeded communication (Burm *et al.*, 2019), and in knowledge sharing to enhance patient safety (Waring and Bishop 2010).

Table 3: Contexts of individual conversations

Illustrative quote	Context
"During initial face-to-face interaction I was successful at 'communicating the vision' whereas later, often via email, it was difficult to generate consensus." (P7)	The context was of a 'guiding coalition' of colleagues who the participant knew well.
"During the course of the project I noticed that as I reflected on my project and discussed the proposals with fellow colleagues the project evolved for the better." (P8)	Participant individually developed a fixed plan very early, and didn't consult or engage widely at the beginning.
"I decided upon a one to one discussion initially rather than a group meeting; this method demonstrated some informal leadership qualities." (P14)	Participant observed that colleagues behaved differently when change proposed. Discussion at a larger meeting may have resulted in conflict.
"One of the key moments was engaging a haematologist in a conversation regarding treatment, in a different and non-related clinical situation." (P16)	Participant had wanted to undertake all the discussions with a wide range of stakeholders personally. Volunteers came forward, but it was difficult to arrange meetings. A chance discussion directed the participant to another colleague with a more specific interest.
"Informal interviews with stake holders (anaesthetists, ODPs, scrub nurses, ward nursing team and Consultant Gynaecologists). This provided me with an overview of the extent of the challenge." (P17)	Initial discussions were informal, and reported in terms of creating a sense of urgency. Subsequently team members approached the participant with suggestions. Participant strongly believed in having less conflict, which may have influenced choice of informal discussions.
"I also learnt that formal meetings are not always necessary and sometimes informal opportune meetings were just as important to move the project forward." (P18)	Time constraints (the participant's and others) were significant which made meeting difficult. Discusses engagement with Consultants and other junior doctors. No discussion of team or formal meetings.
"But I made sure I planned my break times accordingly to communicate with my team regularly." (P19)	There was a clear sense of team in the project, but time was a significant constraint. The project was 'pitched' at the individual members of the team's understanding, with opportunities to ask questions.
".... approached each consultant individually (one to one negotiation skills) and built the trust with strong knowledge and experience." (P20)	Participant was well known in the hospital. Emails were not replied to. In a small group discussion some colleagues were unwilling even to discuss change, so one to one meetings favoured.
"I did a lot of preparatory groundwork to ensure my project was focussed and well researched. Informal discussions with ward staff uncovered dissatisfaction with the old system and helped me gauge the kind of intervention that would have their support." (P23)	Participant was hesitant to promote the change idea, especially as not many of the staff were known to him. Preferred working style was individual interactions ('could have formed a working group'). In implementation, participant spoke individually to as many nurses as possible.
"I believe the members of staff I spoke to appreciated that I made the effort to meet them in their departments for face-to-face discussions and took the time to fully understand their role in the ... scan pathway and to listen to their viewpoints." (P31)	An 'informal friendly' manner was adopted in a fact-finding exercise about the current position. Hostility was expected, but was not experienced. However, 'unhelpful attitudes of apathy and shifting the blame' were, and no change was achieved.
"Getting hold of the ward clerks and discussing this issue was a little more challenging, they were constantly on the go and after trying to talk to one of our 2 members over lunch I realised they didn't want to be interrupted during their break! I persisted and finally managed a productive conversation at the "water cooler". (P32)	The participant wanted to discuss changing some administrative arrangements, but found it impossible in normal working arrangements.

Some studies from outside healthcare have highlighted the leadership effectiveness of informal conversations where there is a power difference between the interlocutors. Larsson and Lundholm (2011) in an observation of a chance conversation between bank employees in a line management relationship were able to assess the conversation as an understanding of leadership. Their analysis of leadership was based on their identification of details in the leader's talk highlighting vision, values, and identities – all common elements in leadership theory. In a similar vein Alvesson and Sveningsson (2001:1452) in a study based on interviews rather than observations, highlight that leadership is often comprised of mundane acts, differing little from what others do, specifically listening and chatting. "What is actually heard and/or talked about is perhaps of minor relevance and lesser interest as long as it is the managers who are performing these acts." In these studies, the power difference is clear and acknowledged. In the evidence drawn from multi-professional contexts in healthcare it is more likely to be hidden and unacknowledged, reflecting professional differences.

Studies have examined informal leadership from an entity perspective, concentrating on the attributes of the informal leaders (Pielstick 2000, Shaughnessy *et al.*, 2017). These papers refer to informal leadership as part of the 'shadow' organisation (Kernick 2002), operating outside formal structures and procedure. In this sense, informal leadership is an ongoing, although often not recognised, activity. For our participants, their leadership was mostly directed at a specific project objectives.

Grill *et al.*, (2011) explored the importance of dialogue in 2 Swedish hospitals, and highlighted the importance of power differentials, both formal and informal. Genuine dialogue occurred only "when the communicative action was understanding-oriented and the power relationship was experienced as equal" (2011:45). Power and hierarchy are major concerns in medical training, in distributed leadership, and in the literature reviewed here. In practice, in the health and social care context, the presence of complex power relationships may make distributed leadership more difficult to promote (Currie and Lockett 2011). Gordon *et al.*, (2015) explored trainees' narratives of leadership through interviews and focus groups and reported that the narratives came predominantly from the position of follower within a hierarchy, suggesting a lack of perception in trainees that they are leaders. Grill *et al.*, (2015) subsequently developed a dialogue training programme which was well evaluated, but unfortunately did not include doctors. Specialist trainees are both in very hierarchical relationships, within the medical team, and non-hierarchical relationships, at least formally, with other healthcare professionals, and so contexts of the specific conversations will vary. They are also temporary staff in a particular organisation as they rotate frequently during their training, which may have a bearing on relational concepts of their leadership.

Gordon *et al.*, (2017) situate their study discussed above within the field of complex adaptive systems. Complexity theory offers alternative ways to consider health systems and leadership, by emphasising how actors are connected within a system. Ideas from complexity science and systems thinking have influenced a wide range of disciplines in health (Rusoja *et al.*, 2018), and complexity leadership theory has been proposed to move on from, as Uhl-Bien *et al.*, put it (2007:298), "the industrial age to the knowledge era." Their framework includes administrative leadership, adaptive leadership, a dynamic rather than a role enacted by an individual, in which outcomes are achieved through interaction in a social system, and enabling leadership which is concerned with creating the conditions through which adaptive leadership can emerge. How this dynamic works through conversations is an important strand of complexity thinking, and is developed in the theory of complex responsive processes (Stacey and Mowles, 2017). Issues such as identity, power relationships, social backgrounds, and ideology are all relevant in the ways these conversations develop. These conversations are not informal opportunities for leaders to lead, as considered above, but opportunities for emergence of new understanding to emerge in the social system. Bååthe *et al.*, (2016) for example in exploring how physicians responded favourably or unfavourably

to major changes in ward round routines suggested that time to allow conversations about experiences, not in a linear exploration of problems and solutions, but as a process through which identity can evolve in ways that give different perspectives on change. The unpredictability of conversations, including how opportunities to engage in them present themselves or can be managed is a key factor in the non-linearity of change (Shaw 2002), and account for differences between work as imagined in linear change models, and the work as done in leadership practice, a distinction which has been proposed as a framework to develop new approaches to patient safety (Mannion and Braithwaite 2017).

In the excerpts in table 3, and in project accounts more generally, the communication through conversations is mainly presented as a linear process. There is little acknowledgement of power imbalances in our participants' accounts, other than within the hierarchical medical teams, and none of the short term nature of leadership relationships outside the medical hierarchy. In some accounts, chance conversations and developing understanding within conversations were explained. Studies which explore the details of leadership conversations of doctors, particularly trainee doctors, would develop our understanding of important processes for improving patient care. The role of conversations in explaining non-linearity of change might be considered a priority content area to be covered in leadership programmes.

Limitations

Our data is limited, and drawn from a specific educational context. In selecting the best of the accounts, we have not attempted to achieve a representative sample of participants. Two of the authors of this paper designed and delivered the programme on which it was based, and so inevitably our analysis draws on our wider experience, particularly our facilitation of the action learning sets that were a key element in the programme.

Conclusion

Our description of individual, informal conversations as a favoured leadership process for medical trainees makes a contribution to the medical leadership literature. One implication of our findings is for future research into the contributions of doctors in training to service improvement and change to explore leadership micropractice in much more detail than is currently available. Our own reflections on our experience on the programme suggest that many of the changes that were achieved were the sorts of changes that might struggle to get to the top of the change agendas of managers or clinicians, which highlights the contribution that junior doctors can make to service improvement.

The main implication of our findings for practice is that leadership programmes for doctors, and particularly for doctors in training, might consider a more skills-based approach, particularly concentrating on the role of conversations in achieving change in contexts of complex power relationships. Exploring the impact of conversations, both on those involved and in a wider sense on services will offer rich reflective opportunities for leaders, and may encourage a broader acceptance of clinical leadership in a distributed sense.

References

- Academy of Medical Royal Colleges and the NHS Institute for Innovation and Improvement (2010), *"Medical Leadership Competency Framework. Enhancing engagement in medical leadership."* Third edition. Coventry.
- Alvesson, M. and Sveningsson, S. (2003), "Managers doing leadership: the extra-ordinarization of the mundane", *Human Relations*, vol. 56, no. 12, pp. 1435-1459.
- Bååthe, F., Ahlborg Jr, G., Edgren, L., Lagström, A. and Nilsson, K. (2016), "Uncovering paradoxes from physicians' experiences of patient-centered ward-round", *Leadership in Health Services*, Vol. 29, No. 2, pp. 168-184.
- Bagnall, P. (2012), *"Facilitators and barriers to leadership and quality improvement."* The King's Fund. London
- Belbin, R.M. (2010), *"Management Teams : Why They Succeed or Fail."* Routledge, Burlington.
- Berghoult, M.A., Fabbriotti, I.N., Buljac-Samarzic, M. and Hilders, C.J.M. (2017), "Medical leaders or masters? A systematic review of medical leadership in hospital settings.", *PLoS ONE*, vol. 12, no. 9, pp. e0184522.
- Boaden, R., Harvey, G., Proudlove, N., and Bevan, H. (2008) *"Quality improvement: theory and practice in healthcare."* NHS Institute of Innovation and improvement, Coventry.
- Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, vol. 3, no. 2, pp. 77-101.
- Brown, B., Ahmed-Little, Y. and Stanton, E. (2012), "Why we cannot afford not to engage junior doctors in NHS leadership.", *Journal of the Royal Society of Medicine*, vol. 105, pp. 105-110.
- Burm, S., Boese, K., Faden, L., DeLuca, S., Huda, N., Hibbert, K. and Goldszmidt, M. (2019), "Recognising the importance of informal communication events in improving collaborative care", *BMJ Quality and Safety*, vol. 28, pp. 289–295.
- Cialdini, R. 2007, *"Influence. The psychology of persuasion."* Revised edition. Harper Business, New York
- Clark, J. and Armit, K. (2010), "Leadership competency for doctors: a framework", *Leadership in Health Services*, vol. 23, no. 2, pp. 115-129.
- Clay-Williams, R., Ludlow, K., Testa, L., Li, X. and Braithwaite, J. (2017), "Medical leadership, a systematic narrative review: do hospitals and healthcare organisations perform better when led by doctors.", *BMJ Open*, vol. 7, no. e014474, pp. 014474.
- Conn, R., Bali, A. and Akers, E. (2016), "Multi-professional clinical leadership training in healthcare: A peer-led evaluation of the experience and benefits of the "Darzi Fellowship"", *International Journal of Public Leadership*, vol. 12, no. 4, pp. 317-335.
- Currie, G. and Lockett, A. 2011, "Distributing Leadership in Health and Social Care: Concertive, Conjoint or Collective?", *International Journal of Management Reviews*, vol. 13, no. 3, pp. 286-300
- Exworthy, M. and Snelling, I. (2017), *"Evaluation of the RCP's Chief Registrar programme."* Health Services Management Centre, University of Birmingham.

- Francis, R. (2010), *"Independent inquiry into care provided by Mid Staffordshire NHS Foundation Trust January 2005 - March 2009."* London.
- Francis, R. (2013), *"Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry."* The Stationery Office, London.
- Frich, J., Brewster, A., Cherlin, E. and Bradley, E. (2015), "Leadership Development Programs for Physicians: A Systematic Review", *Journal of General Internal Medicine*, vol. 30, no. 5, pp. 656-674.
- Gilbert, A., Hockey, P., Vaithianathan, R., Curzen, N. and Lees, P. (2012), "Perceptions of junior doctors in the NHS about their training: result of a regional questionnaire", *BMJ Quality and Safety*, vol. 21, pp. 234-238.
- Gillam, S. *"Leadership and Management for Doctors in Training – A practical guide."* Radcliffe, Oxford.
- Gordon, L., J, Rees, C. E., Ker, J. S., and Cleland, J. (2015), "Dimension, discourses and differences: trainees conceptualizing health care leadership and followership", *Medical Education*, vol. 49, pp. 1248-1262.
- Gordon, L., Rees, C., Ker, J. and Cleland, J. (2017), "Using video-reflexive ethnography to capture the complexity of leadership enactment in the healthcare workplace", *Advances in Health Sciences Education*, vol. 22, no. 5, pp. 1101-1121.
- Grill, C., Ahlborg, G. and Lindgren, E.C. (2011), "Valuation and handling of dialogue in leadership: a grounded theory study in Swedish hospitals", *Journal of Health Organisation and Management*, vol. 25, no. 1, pp. 34-54.
- Grill, C., Ahlborg, G., Wikstrom, E. and Lindgren, E. (2015), "Multiple balances in workplace dialogue: experiences of an intervention in health care.", *Journal of Workplace Learning*, vol. 27, no. 4, pp. 267-281.
- Ibrahim, J.E., Jeffcott, S., Davis, M. and Chadwick, L. (2013), "Recognizing junior doctors' potential contribution to patient safety and health care quality", *Journal of Health Organisation and Management*, vol. 27, no. 2, pp. 273-286.
- Jones, A.C., Shipman, S.A. and Ogrinc, G. (2015), "Key characteristics of successful quality improvement curricula in physician education: a realist review", *BMJ quality and safety*, vol. 24, no. 1, pp. 77-88.
- Kernick, D. (2002), "The demise of linearity in managing health services: a call for post normal health care", *Journal of Health Services Research and Policy*, vol. 7, no. 2, pp. 121-124.
- Kotter, J.P. (1996), *"Leading change."* Harvard Business School Press, Boston, Mass.
- Kirkman, M.A., Sevdalis, N., Arora, S., Baker, P., Vincent, C. and Ahmed, M. (2015), "The outcomes of recent patient safety education interventions for trainee physicians and medical students: a systematic review", *BMJ open*, vol. 5, no. 5, pp. e007705.
- Larsson, M. and Lundholm, S.E. (2010), "Leadership as Work-embedded Influence: A Micro-discursive Analysis of an Everyday Interaction in a Bank", *Leadership*, vol. 6, no. 2, pp. 159-184.
- Lingard, L., Vanstone, M., Durrant, M., Fleming-Carroll, B., Lowe, M., Rashotte, J., Sinclair, L. and Tallett, S. (2012), "Conflicting messages: examining the dynamics of leadership on interprofessional teams", *Academic Medicine : Journal of the Association of American Medical Colleges*, vol. 87, no. 12, pp. 1762-1767.

- Lucas, R., Goldman, E., Scott, A. and Dandar, V. (2018), "Leadership Development Programs at Academic Health Centers: Results of a National Survey", *Academic Medicine*, vol. 93, no. 2, pp. 229-236.
- Mannion, R. and Braithwaite, J. (2017), "False Dawns and New Horizons in Patient Safety Research and Practice", *International Journal of Health Policy and Management*, vol. 6, no. 12, pp. 685-689.
- McGill, I. and Beatty, L. (2001), "*Action Learning: A practitioner's guide*", second edition, Routledge, Abingdon.
- McMillan, R., Switzler, A., Maxfield, D., Patterson, K. & Grenny, J. (2013), "*Influencer: the new science of leading change*." McGraw-Hill.
- Mendis, D. and Paton, C. (2014), "Perceptions of clinical leadership amongst West Midlands registrars", *International Journal of Leadership in Public Services*, vol. 10, no. 2, pp. 108-124.
- NHS Leadership Academy (2013), "*Healthcare Leadership Model. The nine dimensions of leadership behaviour*." NHS Leadership Academy. Leeds.
- Nugus, P., Greenfield, D., Travaglia, J., Westbrook, J. and Braithwaite, J. (2010), "How and where clinicians exercise power: interprofessional relations in health care", *Social Science and Medicine*, vol. 71, pp. 898-909.
- Shaw, P. (2002), "*Changing Conversations in Organizations*", Routledge Ltd, London.
- Pielstick, C.D. (2000), "Formal vs. Informal Leading: A Comparative Analysis", *Journal of Leadership and Organizational Studies*, vol. 7, no. 3, pp. 99-114.
- Phillips, G.D. 2018, "The chief registrar: a new Royal College of Physicians leadership initiative for trainees", *British Journal of Hospital Medicine*, vol. 79, no. 3, pp. 2-3.
- Revans, R. (2011), *ABC of action learning*. Gower, Farnham.
- Rusoja, E., Haynie, D., Sievers, J., Mustafee, N., Nelson, F., Reynolds, M., Sarriot, E., Swanson, R.C. and Williams, B. (2018), "Thinking about complexity in health: A systematic review of the key systems thinking and complexity ideas in health", *Journal of Evaluation in Clinical Practice*, Vol. 24, pp. 600-606.
- Sadowski, B., Cantrell, S., Barelski, A., O'Malley, P.G. and Hartzell, J.D. (2018), "Leadership Training in Graduate Medical Education: A Systematic Review", *Journal of Graduate Medical Education*, vol. 10, no. 2, pp. 134-148.
- Sarto, F. and Veronesi, G. (2016), "Clinical leadership and hospital performance: assessing the evidence base", *BMC Health Services Research*, vol. 16, no. Suppl 2, pp. 85-97.
- Shaughnessy, B.A., Treadway, D.C., Breland, J.W. and Perrewé, P.L. (2017), "Informal Leadership Status and Individual Performance", *Journal of Leadership and Organizational Studies*, vol. 24, no. 1, pp. 83-94.
- Stacey, R.D., and Mowles, C. (2017), *Strategic management and organisational dynamics. The challenge of complexity to ways of thinking about organisations. (7th edition)*. Pearson Educational, Harlow.
- The Health Foundation. (2011), "*Involving junior doctors in quality improvement*", The Health Foundation. London.

- Tuckman, B.W. 1965, "Developmental Sequences in Small Groups", *Psychological Bulletin*, vol. 63, no. 6, pp. 384-399.
- Uhl-Bien, M. (2006), "Relational Leadership Theory: Exploring the social processes of leadership and organizing", *The Leadership Quarterly*, vol. 17, no. 6, pp. 654-676.
- Uhl-Bien, M., Marion, R. and McKelvey, B. (2007), "Complexity Leadership Theory: Shifting leadership from the industrial age to the knowledge era", *The Leadership Quarterly*, Vol. 18, No. 4, pp. 298-318.
- Waring, J. and Bishop, S. (2010), ""Water cooler" learning. Knowledge sharing at the clinical "backstage" and its contribution to patient safety.", *Journal of Health Organisation and Management*, vol. 24, no. 4, pp. 325-342.
- Wong, B.M., Etchells, E.E., Kuper, A., Levinson, W. and Shojania, K.G. (2010), "Teaching quality improvement and patient safety to trainees: a systematic review", *Academic Medicine : journal of the Association of American Medical Colleges*, vol. 85, no. 9, pp. 1425-1439.